

8

**Notice of Allowability**

Application No.

10/518,527

Examiner

James P. Hughes

Applicant(s)

FURUYA ET AL.

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment received on 4-19-07.
2. ☒ The allowed claim(s) is/are 1, 2 and 5-14.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

**DETAILED ACTION*****Response to Arguments***

1. Applicant's arguments, see pages 5-7, filed on April 19, 2007, with respect to the rejections of claims 1, 2, and 5-14 have been fully considered and are persuasive. The rejections have been withdrawn. Applicant's argues that prior art does not teach that the electric field is generated in the optical waveguide by nonlinear optical effect when the optical signal propagates through the optical waveguide, where in the optical signal is incident on a side surface of the dielectric substrate parallel to the longitudinal direction of the pair of electrodes, and wherein when the optical signal is incident on the side surface of the dielectric substrate, a variation in the electric field generated in the optical waveguide is output as an electrical signal from the pair of electrodes.

***Allowable Subject Matter***

2. Claims 1, 2, and 5-14 are allowed. The following is an examiner's statement of reasons for allowance. Claim 1 is allowed because the prior art of record fails to teach or fairly suggest an apparatus, or means for, an optical signal to electrical signal converter comprising; an optical waveguide for receiving and propagating an optical signal that has been modulated so as to have a side band represented by [the equations in the claim]; said electric field being generated in the optical waveguide by nonlinear optical effect when the optical signal propagates through the optical waveguide, where in the optical signal is incident on a side surface of the dielectric substrate parallel to the longitudinal direction of the pair of electrodes, and wherein when the

Art Unit: 2883

optical signal is incident on the side surface of the dielectric substrate, a variation in the electric field generated in the optical waveguide is output as an electrical signal from the pair of electrodes; in combination with the other recited limitations in the claim. Claims 2 and 5-14 are allowed by virtue of their dependence on claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to James P. Hughes whose telephone number is 571-272-2474. The examiner can normally be reached on Monday - Friday 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2883

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

James P. Hughes  
Patent Examiner  
Art Unit 2883



Frank G. Font  
Supervisory Patent Examiner  
Technology Center 2800